

A²

1. (Amended) An air-incident optical recording medium compatible with a flying optical head, comprising:

- a recording layer sensitive to modulation and readout by an optical beam directed through the flying optical head; and
- a coating system of layers having a thermal conductivity that maintains the coating system of layers at a temperature that does not cause more evaporation during read and write operations of the coating system of layers and of molecules adsorbed therein from an ambient atmosphere than absent the read and write operations; including
 - a first dielectric layer disposed on the recording layer, and
 - a protective overcoat layer disposed on the first dielectric layer.

2. (Amended) The optical disk of claim 1 where the first dielectric layer and the protective overcoat layer keep the surface temperature less than a desorption temperature of water during read and write operations.

A³

5. (Amended) The optical disk of claim 1 where the protective overcoat layer is a lubricant.

6. (Amended) The optical disk of claim 1 further comprising a metal reflector layer and a third dielectric layer between the metal reflector layer and the substrate.

A⁴

11. (Amended) An air-incident optical disk compatible with a flying optical head, comprising:

- a phase change recording layer where the reflectivity difference between the amorphous and crystalline states are utilized for mark formation; and
- a coating system of layers having a thermal conductivity that maintains the coating system of layers at a temperature that does not cause more evaporation during read and write operations of the coating system of layers and of molecules adsorbed therein from an ambient atmosphere than absent the read and write operations; including

a first dielectric layer, and
a protective overcoat layer.

A4
Amended

12. (Amended) The optical disk of claim 11 where the first dielectric layer and the protective overcoat layer keep the surface temperature less than the desorption temperature of water when optical energy impinges on the recording layer.

13. (Amended) The optical disk of claim 11 such that the protective overcoat layer has a thermal conductivity that substantially dissipates heat that reaches the surface when optical energy impinges on the recording layer.

AS
363
B6

21. (Amended) An optical recording system comprising of an air-incident optical disk compatible with flying optical heads, in which the recording layer is separated from a surface of the disk by intervening layers of a total thickness less than about 1 μm and a composition such that the highest temperature of the surface during normal operation is less than the desorption temperature of water;

a flying optical head where the lowest facet of the lens element of the flying optical head is supported to float in close proximity to the surface of the disk and where the optical focus of the flying head is at the recording layer;

means of delivering a beam of light to the optical head so as to raise the recording layer to a temperature exceeding about 250°C;

means of optically detecting and differentiating the presence and absence of the mark as seen by the optical beam;

and tracking detection and feedback means to ensure that the optical beam can follow the path of the marks.

A6

25. (Amended) In an air-incident optical recording medium which can be used with a flying optical head, the recording medium including a recording layer sensitive to heat produced by an optical beam which raises the recording layer to a temperature exceeding 250°C, a coating